User Guide

MAC HOME

REF. 4488

AV-COFDM Stand Alone Modulator

IKUSI

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General safety instructions

- Read all of this user manual carefully before plugging in the unit.
- Always have these instructions to hand during installation.
- Follow all of the instructions and safety notices regarding unit handling.

Types of notices

The meaning of the safety notices used in this manual are described below.

DANGER OF DEATH OR INJURY

This safety notice indicates a possible danger for the life and health of people. Not following these instructions may lead to serious consequences to health and may even cause fatal injuries.

RISK OF DAMAGE TO THE UNIT

This safety notice indicates a possible dangerous situation. Not following these instructions may lead to the unit being damaged.

NOTE

This type of notice is a note containing applicable advice and useful information for optimum use of the unit.

HANDLING THE INSIDE OF THE UNIT IS FORBIDDEN

This notice forbids any work that may affect the working order of the unit or its warranty.

DO NOT DISPOSE OF AS URBAN WASTE

This type of notice indicates that the unit must not be disposed of as unselected urban waste.

Basic safety instructions

DANGER OF DEATH OR INJURY

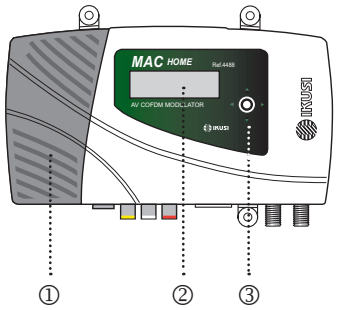
- Do not install the unit during an electrical storm. This could lead to electrostatic discharge from lightning.
- Do not open the unit. There is a risk of electrostatic discharge.

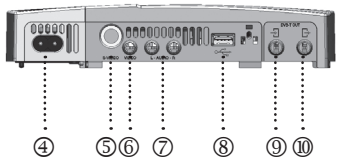
RISK OF DAMAGE TO THE UNIT

- The unit must be appropriately ventilated. Install the unit in a dust-free location. Do not place the unit in a location where the ventilation slots are covered or blocked. Install the unit in a location with at least 20 cm around it free of other objects.
- Do not expose the unit to rain or moisture. Install the equipment in a dry location with no infiltration or condensation of water. Should a liquid enter the unit, disconnect it immediately from the mains.
- Keep the unit away from flammable objects, candles and anything that may cause a fire.
- Connect the unit to an easily accessible power socket. In the event of an emergency, it will then be possible to quickly unplug the unit.
- Do not expose the unit to sources of heat (sun, heating, etc.).

Introduction

General description





KEY

① Power Supply
② Display (LCD)
③ Control button
④ Mains connector
⑤ S-Video & component Video (YPbPr, RGB)
⑥ C-VBS vídeo input
⑦ L & R analogic audio inputs
⑧ USB input (firmware actualization)
⑨ TV Loopthrough input
⑩ TV COFDM output

Main features

The MAC HOME model is an AV analogue TV signal to COFDM digital TV signal standalone modulator unit. Suitable for individual residential installations, it is an ideal solution for the distribution of analogue video signals with COFDM digital TV modulation in a single standalone unit.

The AV signal is digitalised, coded in MPEG2 MP@ML, H.264/MPEG4 AVC MP L4.1 and modulated in COFDM. The COFDM base band signal is modulated on an RF carrier that can be adjusted at the output to the UHF bands.

- Programming:
- User interface with LCD display and control button for basic configuration.
- All settings are automatically memorised.
- Reprogrammable as many times as required.
- Firmware update via USB connection.

Technical specifications

MAC HOME

Input		**AV**
Format		CVBS, S-VIDEO, YPbPr, RGB
Input level (video)	Vpp	0.7 ... 1.4
Input impedance	Ω	75
Video standards		PAL/SECAM/NTSC/B&W
Audio standards		1 x mono/stereo
Input level (audio)	Vpp	0.5 ... 2.5

Compresion		
Video		MPEG2 MP@ML, H.264/MPEG4 AVC MP L4.1
Video resolution		720x576, 25 fps (PAL), 720x480, 30 fps (NTSC)
Video Bitrate	MBits/s	4 - 10
Audio		MPEG1 Layer II
Audio Bitrate	KBits/s	96, 128, 160, 192, 224, 256, 320, 384

DVB Processing	
Insertion tables	PAT, PMT, SDT, NIT
Configuration	Channel Name, SID, LCN, NID, Network Name, Provider Name, TSID, ONID, NIT MODE, LCN Private Descriptor

Output		**DVB-T according to ETSI EN 300 744**
Bandwidths	MHz	6 / 7 / 8
Number of carriers		2K / 8K
MER	dB	≥ 35
Central frequency	MHz	474 - 858
Level	dBµV	≥ 80
Output pitch attenuation	dB	1.5
Level adjustment	dB	-25
Frequency stability	ppm	≤ ±30
Noise figure (ΔB = 8 MHz)	dBc	≤ -45

Operations		
Mains voltage	VAC	230 - 240
Consommation	W	8.1
Operating temperature	°C	0 to 45
Mains connector		IEC C8

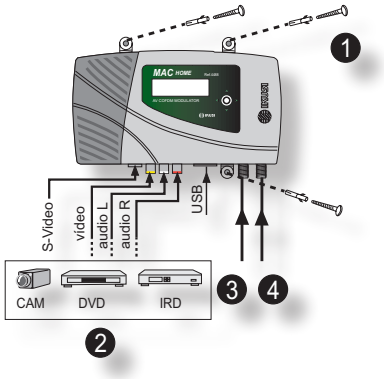
Unit installation and configuration

The LCD display and the control button are sufficient for the basic settings of the unit. Follow the steps indicated below to install the unit and configure the various parameters accessible from the user interface on the LCD display.

Installation

RISK OF DAMAGE TO THE UNIT

Mechanically handling the unit may result in damage. Do not connect the unit to the power supply before or during assembly.



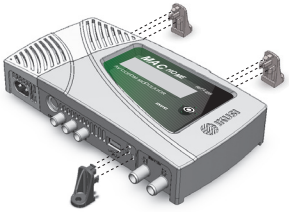
1) Mount and tighten the screws and plugs (not supplied) to secure the unit to the wall. (*)

2) Connect the AV input in the respective RCA connectors or S-Video connector.

3) Optionally, connect the loop-through RF input coaxial cable (F connector).

4) Connect the coaxial output cable to the unit (F connector).

(*) The 3 wall attachments are supplied disassembled in order to install the unit horizontally. The straightforward assembly consists of positioning the fastenings in the corresponding holes and pushing as far as possible (they cannot be removed once inserted).



Power supply connection

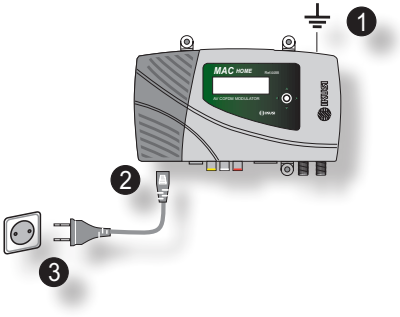
DANGER OF DEATH OR INJURY

Incorrect unit power connection may cause an electric shock. Follow the steps below for the electrical installation of the unit.

1) Connect the earth cable.

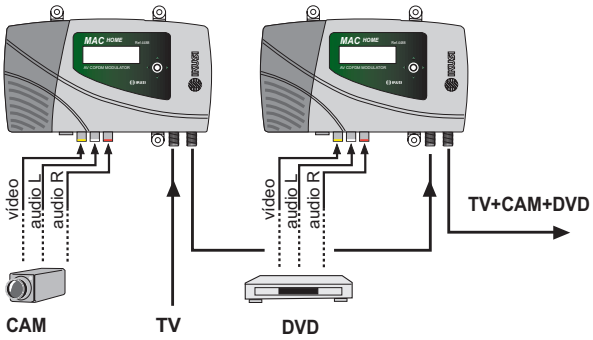
2) Connect the power plug to the unit mains connector.

3) Connect the power plug to the mains socket.



Cascade installation

The MAC HOME unit has 1 AV analogue TV signal to RF UHF output encoded as COFDM Digital TV signal.
Several MAC HOME units can be cascaded in order to increase this capacity. The maximum capacity of a series of N units is 1xN incorporated TV signals. To cascade 2 or more units, connect the RF output of the preceding unit to the TV input (loop-through) of the next unit (see illustration).



The MAC HOME unit automatically adjusts the TSID and SID values when programming the channel of each modulator.

General use of the unit

Below is described how to operate the unit using the control button and interpret the visual indications on the LCD display. The program comprises a main menu made up of sub-menus that can be selected to modify the basic operation settings of the unit.

Visual indications on the LCD display

In the menus and submenus, move the button up or down to browse upwards and downwards position by position.
In the settings, move the button up or down to modify values position by position.
Keep the button pressed up or down to browse or to modify values more quickly

Horizontal button movement

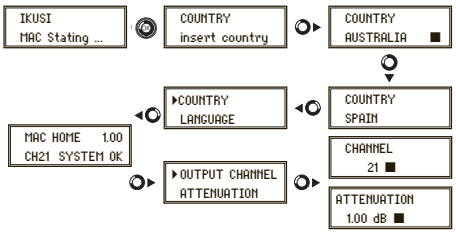
In the menus, move the button to the left or the right to select and go back position by position.
In the settings, move the button to the left or the right to select and go back position by position.
Keep the button pressed to the left or to the right to browse more quickly.

Press button

In the menus, this selects the submenu.
In the submenus, this selects the setting.
In the settings, this selects the parameter value.

Fast menu guide

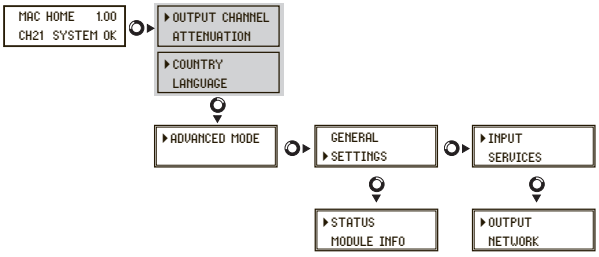
INITIAL Installation



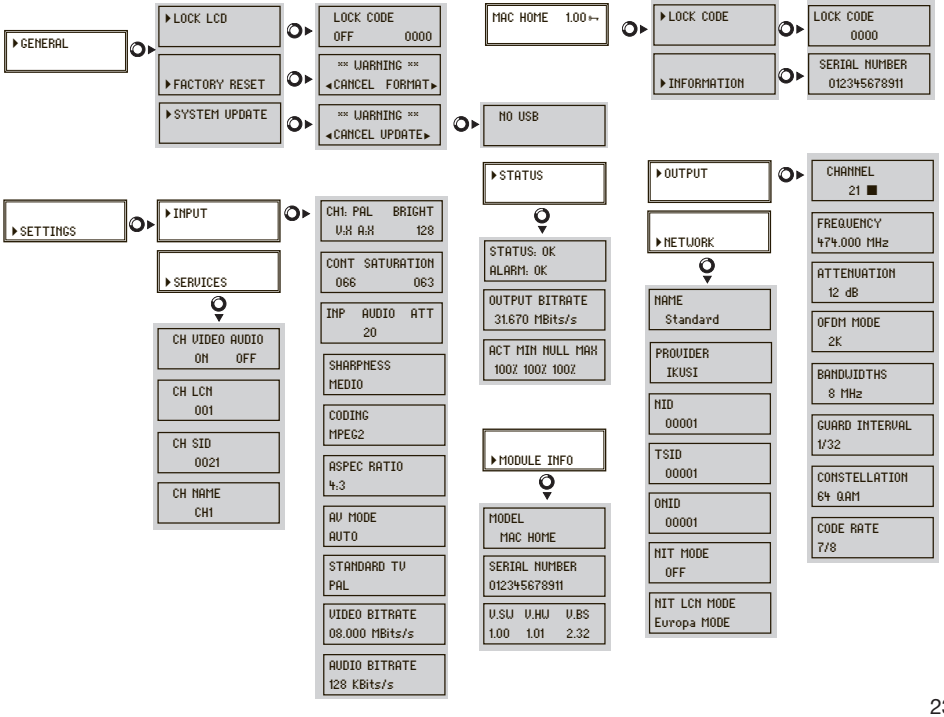
THE EQUIPMENT IS INSTALLED

main menu

ADVANCED Installation



submenu



MAIN MENU

NOTE

Over the following pages, the field locating and selection method is primarily indicated by the “vertical button movement” and “press button” icons.

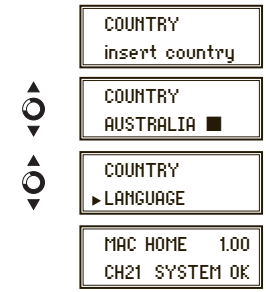
1) Once the unit is started up, the start screen asks for the COUNTRY to be entered. Move the button to the right and the cursor will flash next to the first country, then move the button down until you find the reference country. OK to save

   ** The unit automatically adjusts to the technical peculiarities of this (see default parameters table).*

2) Move to the left and place the arrow on LANGUAGE, then move the button to the right and locate the required language by moving the button vertically. OK to save.

3) Move to the left through to the start screen, which shows the model, firmware version, channel and status.

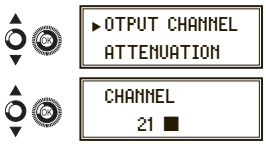
   STATUS:
   - ■ SYSTEM OK = status correct.
   - ■ NO INPUT = input signal not detected
   - ■ SYSTEM NO OK = status incorrect.



Configuration of the output signal

1) From the start screen, move the button to the right through to the OUTPUT CHANNEL. The cursor will blink next to the channel.

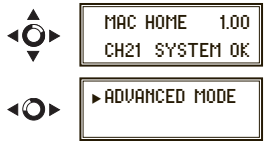
2) Use horizontal scrolling to move between the digits and vertical scrolling to change the value. OK to save.



THE UNIT IS INSTALLED!

ADVANCED MODE

From the start menu, move a step to the right and down to locate the ADVANCED MODE screen.



GENERAL

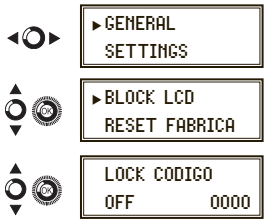
From the GENERAL screen, move the button to the right to access the following menus:

Block the LCD and Joystick

1) Locate and select the option **LOCK LCD** to block access to the configuration of the unit from the LCD display and using the control button.

   a) Enable (ON) or disable (OFF) the blocking option.

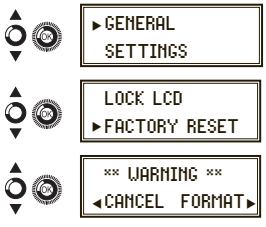
   b) Set a code to unblock the unit whenever this option is enabled.



Restoring factory setting

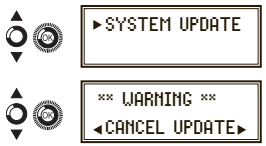
1) Locate and select the option **FACTORY RESET** to restore the factory settings of the unit.

Select the option **FORMAT** to delete all the modifications entered in the configuration by the installer or operator of the unit.



Firmware Update

1) Locate and select the option **SYSTEM UPDATE**.
   a) Download the update package from the website.
   b) Place in the root directory of a USB.
   c) Insert the USB in the connector in the unit.



SETTINGS THE SIGNALS

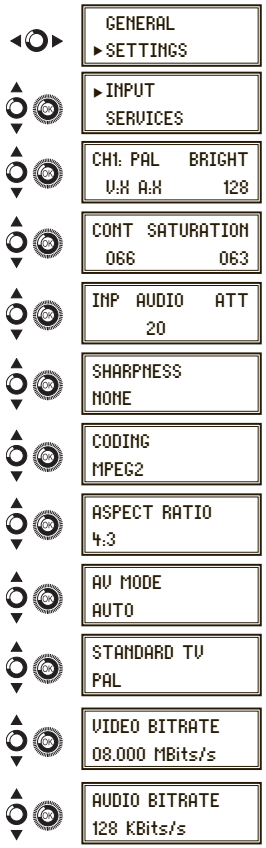
NOTE

The unit can switch the input signals; alter their brightness, contrast and saturation conditions; and adjust the output carrier in RF.

Locate and select the option **SETTINGS**

Configuring the input signals

1) Locate and select the option **INPUT**.
   a) Locate and select the option CH1 BRIGHT to check the type of input signal (PAL), the video (X) and audio (X) detection, and configure the brightness of the video signal (1 to 255).
   b) Locate and select the option CONT SATURATION to configure the contrast and saturation of video signal (1 to 255).
   c) Locate and select the option INP AUDIO ATT to configure the attenuation of audio signal in dB (1 to 40).
   d) Locate and select the option SHARPNESS to configure the sharpness of video signal (High, Medium soft or None).
   e) Locate and select the option CODING. This configures the coding parameters: MPEG2 H.264/MPEG4 AVC.
   f) Locate and select the option ASPECT RATIO. The possible aspect ratio values are 4:3 and 16:9.
   g) Locate and select the option AV MODE. The possible values are AUTO (automatically detects the signal type, excepting RGB), C-VBS, S-Video, YPbPr, RGB.
   h) Locate and select the option STANDARD TV. The possible values are PAL and NTSC,(automatically updated when you change the country).
   i) Locate and select the option VIDEO BITRATE. The unit can be configured for a data coding speed at input of 4 to 10 Mbits/s.
   j) Locate and select the option AUDIO BITRATE. The unit can be configured for a data coding speed at input of 96; 128; 160; 192; 224; 256; 320 and 384 Kbits/s.

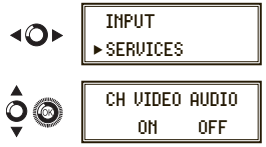


NOTE

If you keep pressing the control button down you will accessthe information and configuration of the following input signals.

Configuration of the carrier services

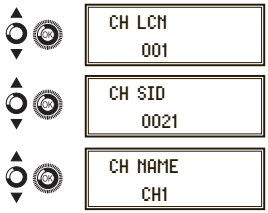
1) Locate and select the option **SERVICES**.
   a) Locate and select the option CH VIDEO AUDIO. Activate (ON) or deactivate (OFF) the video and audio signals of the first input.



b) Locate and select CH LCN. Configure the LCN value of the signal.

c) Locate and select CH SID (used by default as output channel). Service set identifier.

d) Locate and select CH NAME. Assign a name to the signal in CH.



NOTE

If you keep pressing the control button down you will access the information and configuration of the following input signals.

Configuration of the output signal

NOTE

To introduce a sequence of digits in the display move the control button vertically to change the value of the current digit and horizontally to move between digits.

NOTE

Position the cursor to the right of the current value and move the control button vertically to increase or decrease the current value. Hold the control button up or down to increase or decrease the current value more quickly.

1) Locate and select the option **OUTPUT**.

a) Locate and select the CHANNEL. This option automatically changes the frequency, adapting to the center of the channel.

b) Locate and select the option FREQUENCY. This option modifies the value of the channel, adapted to the frequency. Configure the output frequency value between 474 MHz and 862 MHz increments of 125 kHz.

c) Locate and select the option ATTENUATION. Select the output attenuation between 0 and 25 dB.

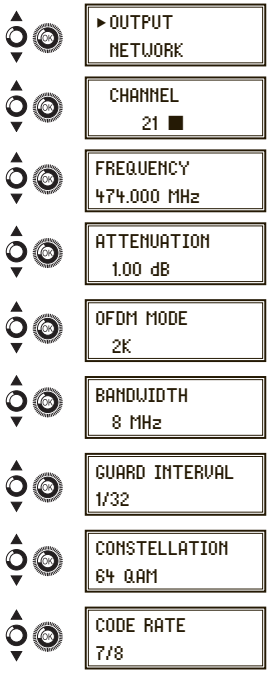
d) Locate and select the option OFDM MODE. Select the OFDM mode between 2K and 8K subcarriers.

e) Locate and select the option BANDWIDTH. Select the bandwidth between 6, 7 and 8 Mhz.

f) Locate and select the option GUARD INTERVAL. Select the guard interval between 1/32, 1/16, 1/8 and 1/4 of symbol.

g) Locate and select the option CONSTELLATION. Select the modulation constellation between 16QAM and 64QAM.

h) Locate and select the option CODE RATE.
Select the code rate between 1/2, 2/3, 3/4, 5/6 and 7/8.



Network configuration

NOTE

To introduce a sequence of digits in the display move the control button vertically to change the value of the current digit and horizontally to move between digits.

NOTE

Position the cursor to the right of the current value and move the control button vertically to increase or decrease the current value. Hold the control button up or down to increase or decrease the current value more quickly.

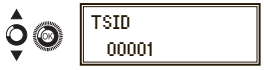
1) Locate and select the option **NETWORK**.

a) Locate and select the option NAME. Configure the name of the network.

b) Locate and select the option PROVIDER. Configure the name of the network service provider.

c) Locate and select the option NID. Configure the value of the network identifier.

d) Locate and select the option TSID. Configure the value of the trasport stream identifier.



e) Locate and select the option ONID. Select the guard interval between 1/32, 1/16, 1/8 and 1/4 of symbol.

f) Locate and select the option NIT MODE. Configure the NIT mode :

- OFF: NIT is not inserted (the LCN values are ignored).
- ON: the NIT generated by the unit is inserted.

g) Locate and select the option NIT LCN MODE. Allows you to select the mode of the NIT LCNs :

- OFF: the LCN descriptor is not inserted in the NIT
- EUROPE MODE: the descriptor for Europe is inserted.
- INDEPENDENT TELEVISION COMISION: the descriptor for the UK is inserted.
- NORDIG MODE V1: the descriptor according to the Nordig V1 specification is inserted.
- NORDIG MODE V2: the descriptor according to the Nordig V2 specification is inserted.
- GENERIC MODE: generic LCN descriptor.

DEFAULT PARAMETERS TABLE IN ACCORDANCE WITH THE COUNTRY SELECTED

COUNTRY	LANGUAGE	NIT MODE	LCN MODE	NID	TSID	ONID	Bandwidth	Channels	Frequencies	Standard TV
Australia	English	ON	Generic	1	28	8442	7 Mhz	28 - 69	526000 - 819875	PAL
France	French	ON	Europe	1	21	8442	8 Mhz	21 - 69	470000 - 861875	PAL
UK	English	ON	Ind Tl Com (UK)	1	21	8442	8 Mhz	21 - 69	470000 - 861875	PAL
Italy	Italian	ON	Europe	1	21	8442	8 Mhz	21 - 69	470000 - 861875	PAL
Portugal	English	ON	Generic	1	21	8442	8 Mhz	21 - 69	470000 - 861875	PAL
Spain	Spanish	ON	OFF	1	21	8442	8 Mhz	21 - 69	470000 - 861875	PAL

Note:

When configuring the country, the unit is always configured with the first channel allowed, using the frequency of the centre of this channel. This is 529.5 MHz for Australia and 474 MHz for the others.

STATUS OF THE UNIT

NOTE

The unit lets you see its status in detail and the existence of active alarms in the module.

1) Locate and indicate **STATUS**.
   a) Locate and indicate STATUS: The unit displays its status and alarms: OK / Error.
   b) Locate and indicate OUTPUT BITRATE. The unit displays the output data speed in Mbits/s.
   c) Locate and indicate MIN ACT MAX NULL. The unit displays the volume of null data packets in the output (minimum, actual and maximum) as a percentage of the total.

Unit information

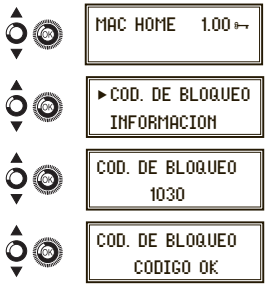
1) Locate and indicate the option MODULE INFO.
   a) Locate and indicate the option MODEL. The unit displays its model and version.
   b) Locate and indicate the option SERIAL NUMBER. The unit displays its serial number.
   c) Locate and indicate the option V.SW V.HW V.BS. The unit displays its software version (V.SW), of hardware (V.HW) and star system (V.BS).

Unblocking the unit

The unit can be blocked from the web interface preventing the user operating the display and the control button to modify the configuration.

To unblock the unit:

1) Locate and select BLOCKING CODE.
2) Enter the unblocking code assigned by the unit operator through the web interface
3) The unit displays the validity of the code.



NOTE

The unit will remain unblocked until it is restarted or the operator deactivates the block from the web interface.

To unblock the unit without the blocking code:

1) Locate and select INFORMATION.
2) Contact the supplier of the unit and provide the SERIAL NUMBER. The supplier of the unit will provide an unblocking code for the serial number indicated
3) The unit displays the validity of the code.

Maintenance

Unit care

HANDLING THE INSIDE OF THE UNIT IS FORBIDDEN

Do not dismantle or try to repair the unit, its accessories or its components. This will render the warranty null and void.

- Do not use the power cable if it is damaged.
- To disconnect the power cable, pull carefully on the plug and not the cable.
- To clean the panel and unit connections:
  - Unplug the unit.
  - Clean with a slightly damp, soft cloth.
  - Allow to dry completely before use.
- Do not spill liquid onto the unit.
- Keep ventilation slots free of dust and any foreign bodies.

Troubleshooting

The most frequent problems arising during unit installation are indicated below. If you encounter any other type of problem, please contact the unit sales team.

Problem	Possible cause	What to do
Forgotten unlock code	------	Contact your supplier
Nothing appears on LCD display	The power cable is not connected properly	Check the power cable

Warranty

Notwithstanding any complaints made to the direct vendor of the product, IKUSI offers unit users a two-year warranty as of the invoice date, which shall become valid on presenting the receipt of purchase.

During the warranty period, IKUSI is responsible for any faults arising due to material or manufacturing defects and shall repair the receiver or replace it for another corresponding to the state of technology at that time. The warranty does not cover any faults or defects due to misuse or non-fulfilment of the information given in this installation manual.

All complaints other than those indicated are not included in the warranty. More specifically, the warranty does not cover services provided by the authorised vendor (e.g. installation, configuration or programme updates) or the repair of any damages or injuries caused to the client or others as a result of the installation or of receiver operations.

Unit recycling

RECYCLING OF ELECTRICAL AND ELECTRONIC EQUIPMENT

(Applicable in the European Union and in European countries with selective waste collection systems.)

This symbol on your unit or its packaging indicates that this product cannot be treated as general domestic waste and must be handed in at the corresponding point of collection for electric and electronic equipment. By ensuring this product is disposed of correctly you will help prevent negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. Recycling of materials helps preserve natural resources. For more detailed information on the recycling of this product, please contact your local council, your nearest collection point or the distributor from whom you purchased the product.

EC-Declaration of Conformity

CE marking

We, Manufacturer

IKUSI, ***Angel Iglesias, S.A.***
Paseo Miramón, 170
E-20009 San Sebastián, Spain

declare that the product

AV-COFDM Autonomous Modulator
MAC HOME

is in conformity with

Council Directive 2004/108/CE
(EMC Directive)
Standards to which conformity is declared :

and

Council Directive 2006/95/CE
(Low Voltage Directive)
Standards to which conformity is declared :

EN 50083-2 :2007
Cabled distribution systems for television and sound signals. Part 2: Electromagnetic compatibility for equipment.

EN 60728-11 :2005
Cabled Distribution Systems for Television and Sound Signals. Part 11: Safety Requirements.

EN 60065 :2003
Safety requirements for mains operated electronics and related apparatus for household and similar general use.

IKUSI

Angel Iglesias, S.A.

San Sebastián, October 2011

Luis Rodríguez Navarrete

R&D Director

Instrucciones seguridad . Safety instructions . Connsignes de sécurité . Istruzioni di sicurezza

Instrucciones de Seguridad — ES

- No obstruya ni cubra las ranuras de ventilación del aparato. Para que haya una ventilación correcta, deje al menos un espacio de 20 cm alrededor.
- No exponer el aparato a la lluvia o al goteo de agua. No colocar encima ningún recipiente con líquido. En caso de que un líquido cayera dentro del aparato, desconectar este inmediatamente de la red alterna..
- Mantenga lejos del aparato los objetos inflamables, velas y todo aquello que pudiera causar un incendio.
- Siguiendo las instrucciones de instalación, fijar firmemente el aparato bien sea en la pared bien sea en la base-soporte especialmente destinada al efecto.
- Conectar el aparato a una toma de tensión de red que sea fácilmente accesible, de forma que en caso de emergencia el aparato pueda ser desconectado rápidamente de la toma.
- No abrir el aparato, ya que existe riesgo de descarga eléctrica.

Safety Instructions — EN

- Do not block or cover the device ventilation openings. For better ventilation, leave a surrounding space of at least 20 cm.
- Do not expose the device to rain or water drops. Do not put any kind of liquid container on top it. In the event that liquid gets into the device, disconnect it immediately from the alternating current.
- Keep flammable objects, candles and anything that may cause a fire away from the device.
- In accordance with the installation instructions, fix the device firmly either on the wall or on the base-support specially intended for this purpose.
- Connect the device to an easily accessible mains outlet, so that the device may be quickly disconnected from the outlet in case of emergency.
- Do not open the device; there is a risk of electric shock.

Instructions de sécurité — FR

- Ne bloquez ni ne couvrez les orifices d'aération de l'appareil. Pour une meilleure aération, laissez tout autour un espace d'environ 20 cm.
- N'exposez pas l'appareil à la pluie ou aux gouttes d'eau. Ne mettez aucun type de récipient pour liquides sur l'appareil. En cas de renversement de liquide à l'intérieur de l'appareil, débranchez-le immédiatement.
- Gardez les objets inflammables, les bougies et tout élément susceptible de provoquer un incendie loin de l'appareil.
- Conformément aux instructions d'installation, fixez l'appareil fermement au mur ou au support base spécialement conçu à cet effet.
- Branchez l'appareil à une prise de courant facilement accessible, de sorte que l'appareil puisse être rapidement débranché en cas d'urgence.
- N'ouvrez pas l'appareil afin d'éviter tout risque d'électrocution.

Instruções de Segurança — PT

- Não bloqueie nem cubra as aberturas de ventilação do aparelho. Para uma ventilação melhor, deixe pelo menos 20 cm de espaço à volta do dispositivo.
- Não exponha o aparelho à chuva ou a gotas de água, nem coloque por cima nenhum recipiente com água dentro. Caso entre água no aparelho, retire imediatamente a ficha da tomada.
- Afaste objectos inflamáveis, velas e qualquer coisa que possa provocar um incêndio.
- Seguindo as instruções de instalação, fixe bem o aparelho na parede ou no suporte especialmente destinado para esse efeito.
- Ligue o aparelho a uma tomada eléctrica de acesso fácil para que possa ser rapidamente desligado da tomada em caso de emergência.
- Não abra o aparelho, visto que pode provocar risco de descargas eléctricas.

Sicherheitshinweise — DE

- Die Belüftungsöffnungen des Geräts nicht blockieren oder abdecken. Für eine korrekte Belüftung mindestens 20 cm Abstand um das Gerät einhalten.
- Das Gerät weder Regen noch Wassertropfen aussetzen. Keine Flüssigkeitsbehälter auf dem Gerät abstellen. Bei Eindringen von Flüssigkeit in das Gerät, dieses sofort von der Wechselstromversorgung trennen.
- Brennbare Objekte, Kerzen und andere mögliche Brandauslöser von dem Gerät fernhalten.
- Das Gerät entsprechend den Installationsanweisungen stabil an der Wand oder auf dem speziell für diesen Zweck ausgelegten Sockel befestigen.
- Das Gerät an eine leicht zugängliche Steckdose anschließen, so dass dieses im Notfall schnell von der Steckdose getrennt werden kann.
- Das Gerät nicht öffnen; es besteht Stromschlaggefahr.

Инструкции по безопасности — RU

- **Не закрывайте и не загораживайте вентиляционные отверстия устройства. Для обеспечения нормальной вентиляции оставьте по меньшей мере 20 см. свободного пространства вблизи устройства.**
- **Необходимо обеспечит защиту устройства от попадания влаги внутрь: дождь, снег и т.п. Не размещайте сверху устройства сосудов с жидкостью. В случае попадания жидкости внутрь устройства, немедленно отключите его от сети переменного тока.**
- **Не размещайте вблизи устройства легковоспламеняющиеся предметы, источники огня и все что может спровоцировать пожар.**
- **Следуя инструкции по установке, надежно закрепите устройство на стене или на монтажной панели, специально предназначенной для этой целей.**
- **Розетка сети переменного тока, к которой подключено устройство, должна быть расположена в легкодоступном месте, чтобы было возможно быстро отключить устройство в экстренном случае.**
- **Не разбирать устройство, т.к. есть угроза электрического удара.**

Veiligheidsinstructies — NL

- U mag de ventilatieopeningen van het apparaat niet blokkeren of bedekken. Voor betere ventilatie dient u minstens 20 cm ruimte eromheen vrij te houden.
- Stel het apparaat niet bloot aan regen of waterdruppels. Plaats er geen vloeistofverpakkingen op. In geval er vloeistof in het apparaat komt, dient u het onmiddellijk van de wisselstroom af te sluiten.
- Houdt brandbare voorwerpen, kaarsen en elk voorwerp dat brand kan veroorzaken, uit de buurt van het apparaat.
- Volg de installatie-instructies op. Plaats het apparaat stevig aan de muur of op de basisondersteuning, welke hiervoor is bestemd.
- Sluit het apparaat aan op een eenvoudig te bereiken stopcontact, zodat u in geval van nood het apparaat snel uit het stopcontact kunt halen.
- Maak het apparaat niet open. U riskeert hier elektrische schokken mee.

Istruzioni di sicurezza — IT

- Non ostruire né coprire le aperture di ventilazione dell'apparecchiatura. Per una migliore ventilazione, lasciare attorno uno spazio libero di almeno 20 cm.
- Non esporre l'apparecchiatura alla pioggia o a gocciolamento d'acqua. Non appoggiare sulla superficie contenitori di liquido. Nel caso penetrasse del liquido nell'apparecchiatura, scollegarla immediatamente dalla rete di corrente elettrica alternata.
- Mantenere lontani dall'apparecchiatura gli oggetti infiammabili, le candele o qualsiasi cosa possa causare un incendio.
- Seguendo le istruzioni di installazione, fissare saldamente l'apparecchiatura al muro o all'apposita base di supporto.
- Collegare l'apparecchiatura ad una presa di corrente facilmente accessibile, in modo da poterla scollegare velocemente dalla presa in caso di emergenza.
- Non aprire l'apparecchiatura. Pericolo di scarica elettrica.

Οδηγίες ασφαλείας — EL

- Μην κλείνετε και μην καλύπτετε τα ανοίγματα εξαερισμού της συσκευής. Για καλύτερο εξαερισμό, αφήστε χώρο τουλάχιστον 20 εκ. γύρω της.
- Μην εκθέτετε τη συσκευή στη βροχή ή σε σταγόνες νερού. Μην τοποθετείτε κανενός είδους δοχείο που περιέχει υγρό πάνω στη συσκευή. Σε περίπτωση που διεισδύσει υγρό στη συσκευή, αποσυνδέστε την αμέσως από το εναλλασσόμενο ρεύμα.
- Διατηρείτε μακριά από τη συσκευή εύφλεκτα υλικά, κεριά και οτιδήποτε θα μπορούσε να προκαλέσει φωτιά.
- Ακολουθώντας τις οδηγίες εγκατάστασης, στερεώστε σταθερά τη συσκευή είτε στον τοίχο είτε στην ειδική γι' αυτόν το σκοπό βάση στήριξης.
- Συνδέστε τη συσκευή σε μια εύκολα προσπελάσιμη πρίζα ηλεκτρικού ρεύματος, έτσι ώστε η συσκευή να μπορεί να αποσυνδεθεί γρήγορα από την πρίζα σε περίπτωση έκτακτης ανάγκης.
- Μην ανοίγετε τη συσκευή, γιατί υπάρχει κίνδυνος ηλεκτροπληξίας.

Instrukcja bezpieczeństwa — PL

- Nie należy blokować lub zakrywać otworów wentylacyjnych urządzenia. Aby uzyskać lepszą wentylację, należy pozostawić co najmniej 20 cm wolnego miejsca wokół urządzenia.
- Nie należy wystawiać urządzenia na działanie deszczu lub wody. Nie należy na nim stawiać żadnego pojemnika z płynem. W przypadku przecieku płynu do wnętrza urządzenia, należy je natychmiast odłączyć od źródła prądu zmiennego.
- W pobliżu urządzenia nie należy stawiać żadnych łatwopalnych przedmiotów, świec lub innych rzeczy, które mogą wywołać pożar.
- Zgodnie z instrukcją montażu, należy przymocować urządzenie należycie do ściany lub na podstawie przeznaczonej do tego celu.
- Urządzenie należy przyłączyć do łatwo dostępnego gniazdka elektrycznego, które umożliwia szybkie odłączenie urządzenia w nagłych przypadkach.
- Nie należy otwierać obudowy urządzenia, istnieje zagrożenie porażenia elektrycznego.

Turvaohjeet — FI

- Älä peitä laitteen tuuletusaukkoja. Jätä vähintään 20 cm tila laitteen ympärille hyvän tuuletuksen varmentamiseksi.
- Älä altista laitetta sateelle tai vedelle. Älä aseta mitään nestettä sisältävää säiliötä sen päälle. Jos nestettä pääsee laitteen sisään, kytke se välittömästi irti pistokkeesta.
- Pidä kaikki palavat esineet, kuten kynttilät ja muut jotka voivat sytyttä tulipalon, poissa laitteen lähettyviltä.
- Noudattaen asennusohjeita, kiinnitä laite tukevasti seinälle tai siihen tarkoitettuun jalustaan.
- Kytke laite pistokkeeseen johon on helppo päästä jotta laite voidaan kytkeä irti nopeasti pistokkeesta hätätilanteen sattuessa.
- Älä avaa laitetta sähköiskuvaaran takia.

Bezpečnostní pokyny — CS

- Neomezujte přístup k větracím otvorům zařízení ani je nezakrývejte. Pro lepší větrání kolem nich ponechejte volný prostor nejméně 20 cm.
- Nevystavujte zařízení dešti nebo kapající vodě. Nestavte na ně jakékoli nádoby obsahující kapaliny. V případě, že se do zařízení dostane voda, okamžitě je odpojte od střídavého napájení.
- Hořlavé předměty, svíčky a cokoli, co by mohlo způsobit požár, neumísťujte do blízkosti zařízení.
- Postupujte podle pokynů pro instalaci a zařízení řádně upevněte na zeď nebo umístěte na podstavec určený speciálně k tomu účelu.
- Zařízení připojte ke snadno přístupné síťové zásuvce, aby v případě nebezpečí bylo možno je rychle odpojit.
- Neotvírejte zařízení, jinak hrozí nebezpečí úrazu elektrickým proudem.

Sikkerhedsanvisninger — DA

- Blokér eller tildæk ikke anordningens ventilationsåbninger. Lad der være mindst 20 cm fri rum omkring den af hensyn til bedre ventilation.
- Udsæt ikke anordningen for regn eller vanddråber. Anbring ikke nogen form for væskebeholder på den. I tilfælde af, at der kommer væske ind i anordningen, skal den omgående frakobles vekselstrømmen.
- Hold brandbare genstande, stearinlys og alt, hvad der kan forårsage brand, væk fra anordningen.
- Idet installeringsanvisningerne følges, fastgøres anordningen sikkert på væggen eller på den basisholder, som er specielt beregnet til dette formål.
- Tilslut anordningen til en lettilgængelig lysnetkontakt, så anordningen hurtigt kan frakobles stikkontakten i en nødsituation.
- Luk ikke anordningen op. Der er risiko for elektrisk stød.

Bezpečnostné pokyny — SK

- Neobmedzujte prístup k vetracím otvorom zariadenia ani ich nezakrývajte. Pre lepšie vetranie nechajte okolo nich voľný priestor najmenej 20 cm.
- Nevystavujte zariadenie dažďu alebo kvapkajúcej vode. Nedávajte na zariadenie žiadne nádoby obsahujúce kvapaliny. V prípade, že sa do zariadenia dostane voda, okamžite ho odpojte od sieťového napájania.
- Horľavé predmety, sviečky a čokoľvek, čo by mohlo spôsobiť požiar, neumiestňujte do blízkosti zariadenia.
- Postupujte podľa pokynov na inštaláciu a zariadenie riadne upevnite na stenu alebo umiestnite na podstavec určený špeciálne na tento účel.
- Zariadenie pripojte k ľahko prístupnej sieťovej zásuvke, aby ho bolo možné v prípade nebezpečenstva rýchlo odpojiť.
- Neotvárajte zariadenie, inak hrozí nebezpečenstvo úrazu elektrickým prúdom.

Varnostna navodila — SL

- Ne prekrivajte ali blokirajte prezračevalnih odprtin na napravi. Za boljšo prezračevanje pustite najmanj 20 cm prostora okoli naprave.
- Ne izpostavljajte naprave na dež ali vodo. Na napravo ne postavljajte posod s tekočino. Če tekočina pride v napravo jo takoj izključite iz izmenične napetosti.
- Napravi ne približujte vnetljivih predmetov, sveč ali nekaj kar lahko povzroči požar.
- Po navodilih za montažo napravo trdno pritrdite na zid ali podstavek, ki je za to namenjen.
- Napravo priključite v enostavno dostopen vtičač tako, da jo lahko v primeru nevarnosti hitro izključite.
- Naprave ne odpirajte – obstaja nevarnost električnega udara.

Drošības instrukcija — LV

- Neaizsprostojiet un neaplājiet ierīces ventilācijas atveres. Labākai ventilācijai atstājiet vismaz 20 cm telpu ap tām.
- Nepakļaujiet ierīci lietum vai ūdens pilieniem. Nelieciet uz to šķidrumu saturošus traukus. Gadījumā, ja ūdens iekļūst ierīcē, nekavējoties atvienojiet to no maiņstrāvas.
- Neturiet ierīces tuvumā viegli uzliesmojošus objektus, sveces un citus priekšmetus, kas var aizdegties.
- Sekojot uzstādīšanas instrukcijām, cieši piestipriniet ierīci vai nu pie sienas, vai nu uz pamatu, kas īpaši domāts šim nolūkam.
- Pievienojiet ierīci vieglī pieejamai jaudas padeves ligzdai, lai ierīce var tikt ātri atvienota no padeves gadījas nepieciešamības gadījumā.
- Neatveriet ierīci; pastāv risks saņemt elektrisko šoku.

Saugumo taisyklės — LT

- Neuždenkite įrenginio ventiliacinių angų. Laikykite įrenginį bent 20 cm atstumu nuo kitų objektų dėl geresnės ventiliacijos.
- Saugokite įrenginį nuo lietaus ar vandens lašų. Nedėkite jokio indo su skysčiu ant įrenginio. Jei įrenginio vidun pakliūtų skysčio, tuoj pat atjunkite jį nuo kintamosios srovės.
- Laikykite degius daiktus, žvakes ir viską, kas gali sukelti gaisrą, kuo toliau nuo įrenginio.
- Laikykitės instaliavimo instrukcijų, pritvirtinkite įrenginį tvirtai prie sienos arba prie pagrindo, specialiai skirto šiam tikslui.
- Prijunkite įrenginį prie lengvai prieinamo pagrindinio lizdo taip, kad galima būtų lengvai įrenginį atjungti avarinių atveju.
- Neatidarykite įrenginio, gali nutrenkti elektra.

Struzzjonijiet dwar is-Sigurtà — MT

- M'għandekx timpedixxi jew tgħatti l-ftuħ ta' ventilazzjoni tal-tagħmir. Għal ventilazzjoni aħjar, ħalli spazju ta' mhux anqas minn 20 cm madwaru.
- Tesponiex it-tagħmir għal xita jew tqattir ta' ilma. M'għandekx tqiegħed fuqu kwalunkwe tip ta' reċipjent ta' likwidu fuqu. Fil-każ li likwidu jidħol fit-tagħmir, skonnettja minnufih mill-kurrenti li jalterna.
- Żomm oġġetti fjammabbli, xemgħat u kull ħaġa li tista' tikkaġuna xi nar ` li boġhod mit-tagħmir.
- Wara l-istruzzjonijiet ta' installazzjoni, waħħal it-tagħmir sew jew mal-ħajt jew fuq l-appoġġ bażi maħsub speċifikament għal dan il-għan.
- Ikkonnettja t-tagħmir ma' provvista ta' dawl faċilment aċċessibbli, sabiex it-tagħmir ikun jista' jiġi skonnettjat minn mas-sokit f'każ ta' emerġenza.
- M'għandekx tiftaħ it-tagħmir; Hemm riskju ta' xokk elettriku.

Biztonsági előírások — HU

- Ne zárja el és ne fedje le a készülék szellőzetető nyílásait. A megfelelőbb szellőztetés érdekében, hagyjon legalább 20 cm-es nyílt helyet a nyílás körül.
- A készüléket ne tegye ki eső vagy vízcseppek hatásának. Ne helyezzen rá semmilyen folyadéktartályt. Ha a készülékbe folyadék kerül, azonnal válassza le a váltakozó áramforrásról.
- Tartsa távol a készüléktől a gyúlékony tárgyakat, gyertyákat és bármilyen eszközt, mely tüzet okozhat.
- A felszerelési utasításokat követve, biztonságosan rögzítse a készüléket a falra, vagy az erre szánt állványra.
- Csatlakoztassa a készüléket egy könnyen hozzáférhető hálózati csatlakozóaljhoz, mely sürgősség esetén, lehetővé teszi a készülék gyors leválasztását.
- A készüléket tilos kinyitni; áramütés veszélye áll fenn.

Ohutusjuhend — ET

- Seadme kaant ega ventilatsiooniavasid ei tohi kinni katta. Paremaks ventileerimiseks peab seadme ümber olema vähemalt 20 cm vaba ruumi.
- Ärge jätke seadet vihma kätte ega niiskesse kohta. Ärge asetage seadmele vedelikke sisaldavaid konteinereid. Juhul, kui vedelik satub seadmesse, tuleb seade viivitamatult vooluvõrgust lahutada.
- Veenduge, et tuleohtlikud esemed (küünlad ja teised objektid, mis võivad tekitada tulekahju) jääksid seadmest piisavalt kaugele.
- Järgides paigaldusjuhiseid kinnitage seade kindlalt seinale või spetsiaalsele tugialusele.
- Ühendage toitejuhe kergelt ligipääsetavas kohas pistikupessa, et hädajuhtumi korral oleks võimalik seadet kiiresti vooluvõrgust lahti ühendada.
- Elektrilöögi vältimiseks ärge avage seadme kaant.

Säkerhetsanvisningar — SV

- Ventilationsöppningarna på enheten får inte blockeras eller täckas över. För att uppnå en bättre ventilation bör minst 20 cm fritt utrymme lämnas runt enheten.
- Utsätt inte enheten för regn eller vattendroppar. Placera aldrig någon som helst vätskebehållare på den. Om vätska skulle komma in i enheten måste den omedelbart kopplas ur från nätspänningen.
- Brännbara föremål, stearinljus och alla andra föremål som kan orsaka brand får inte förvaras nära enheten.
- Följ installationsanvisningarna och montera enheten antingen på väggen eller på det stativ som är särskilt avsett för ändamålet.
- Anslut enheten till ett lättåtkomligt nätspänningsuttag, så att enheten snabbt kan kopplas ur vid en eventuell nödsituation.
- Öppna inte enheten eftersom det föreligger risk för elektrisk chock.

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